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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,863	04/10/2001	Nobuaki Honbo	F-11090	6953

7590

03/11/2003

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EXAMINER

SCHECHTER, ANDREW M

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/828,863

Applicant(s)

HONBO ET AL.

Examiner

Andrew Schechter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5,6. 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Liquid crystal display device with conductive light shielding film and contact holes".

Claim Objections

3. Claims 3, 6, and 9 are objected to because of the following informalities: "another contact holes" is unclear. For examining purposes, it is taken to mean "another set of contact holes", "another contact hole", or "second contact holes" below. This claim requires two sets of contact holes, one recited in claim 1 and the other recited in claim 3. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 3, 4, 6, 7, 9, 10, 12, 13, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner assumes that "in the neighborhood of the side surface of said channel region or/and said LDD region" in claims 1 and 15 refers to the right or left side in Fig. 11, or the side facing towards or away from the viewer in Fig. 12, for instance. If this is the intent of the applicant, this is not unclear. However, claim 3 combines both contact holes near this "side surface" and "another contact holes" below the drain lines. This does not appear to be disclosed explicitly by the specification or figures, unless the four contact holes in Fig. 12 are interpreted as the two outside contact holes being "another contact holes" while the two inside contact holes are the contact holes in the neighborhood of the side surface. This interpretation, however, does not agree with the understanding of "side surface" above. Is the embodiment of claim 3 simply not depicted explicitly in the figures?

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by

Muraide, Japanese Patent Document No. 2000-010120.

Muraide '120 discloses [see Figs. 5 and 6, for instance] a liquid crystal display device comprising a pixel board [10] a light shielding film [11], a first insulating film [12], a semiconductor layer [1] with source, drain, and channel regions, a second (gate) insulating film [2], and gate lines [3a], wherein said light shielding film is conductive [see abstract] and there are contact holes [18] connecting each gate line with said light shielding film in the neighborhood of the side surface of said channel region [see Fig. 5]. Claim 1 is therefore anticipated.

In the embodiments shown in Figs. 9-11, there is also a third insulating film [4] and data lines [6a], and "another contact holes" [13] for connecting to the light shielding film below each data line. Claims 2 and 3 are therefore anticipated as well.

The contact holes are filled with a gate line material, so claims 4-6 are also anticipated. The contact holes serve as a light shielding region, so claims 7-9 are also anticipated. The light shielding film is made of heat resistant material [see abstract], so claims 10-12 are also anticipated. The lamination occurs in the order recited, so claims 13 and 14 are also anticipated. The display device can be used in a projector apparatus having a light source and the two recited optical systems [see Fig. 26], so claims 15 and 16 are also anticipated.

8. Claims 2, 5, 8, 11, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by *Muraide*, Japanese Patent Document No. 2000-010121.

Muraide '121 discloses [see Figs. 2 and 3, for instance] a liquid crystal display device comprising a pixel board [10] a light shielding film [11], a first insulating film [12], a semiconductor layer [1] with source, drain, and channel regions, a second (gate) insulating film [2], gate lines [3a], a third insulating film [4], and data lines [6a], wherein said light shielding film is conductive [see abstract] and there are contact holes [13] connecting to said light shielding film below each data line. Claim 2 is therefore anticipated.

The contact holes are filled with a gate line material, so claim 5 is also anticipated. The contact holes serve as a light shielding region, so claim 8 is also anticipated. The light shielding film is made of heat resistant material [see abstract], so claim 11 is also anticipated. The lamination occurs in the order recited, so claim 14 is also anticipated. The display device can be used in a projector apparatus having a light source and the two recited optical systems [see Fig. 13], so claim 16 is also anticipated.

Allowable Subject Matter

9. The most obvious difference between the present invention and that of *Muraide* '120 and *Muraide* '121 is the width of the contact holes compared to the width of the neighboring side of the semiconductor layer (when viewed from above), which increases their effectiveness as light shields. Claims 7-9 do not quite distinguish over

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the prior art, since the contact holes in *Muraide*'s references will also function as light shields, just not as effectively.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (703) 306-5801. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-4711 for regular communications and (703) 746-4711 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Andrew Schechter
March 3, 2003



TOANTON
PRIMARY EXAMINER